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No. XIV.

STAND FOR DRAWING BOARDS OF LARGE
AREA.

The THANKS of the Society were this session given to Mr. JOSEPH CLEMENT, of Prospect-place, St. George's-fields, for his stand for Drawing Boards of large area. The following communication has been received from him on the subject.

19, Prospect-place, St. George's-fields,
January 18, 1825.

SIR,

HAVING constructed a table to facilitate the making of large mechanical and architectural drawings, which possesses some peculiar advantages, I shall be happy to submit it to the Committee of Mechanics.

As it is of considerable size it had better be seen by the committee at my house.

I am, Sir,

A. Aikin, Esq.

Secretary, &c. &c.

&c. &c. &c.

JOSEPH CLEMENT.

PLATE X. Fig. 1 is a perspective view of the back part of the table and stand, viewed oblique. The same letters refer to the same parts in each figure.

A A and B B are the four legs of the frame, which being connected at their upper ends, by means of the joints C C, the lower ends are at liberty to be extended or contracted so as to raise or lower the table at pleasure. The legs A A are connected by the cross rails D D, and the legs B B by the rails E E. The lower ends of the legs A B and A B are connected together by two straps E F, one end of each is fixed to the legs B B; the other ends of the straps are fixed to the rollers G G; the rollers G G are fixed on an axis H, the ends of which are supported and turn in bearings I I affixed to the legs A A; at each end of the rollers G G are fixed ratchet wheels J J, having catches K K acting in them, which prevent the straps from unwinding from the rollers. On the end of the axis is placed a lever or arm L, by turning which the legs A A and B B are easily extended or contracted or retained in any position, by the catches K K; M M is a frame about three feet six inches square, and three inches deep, having a semicircular plate N N fixed to each end of it, and a bar O across the middle. At each end of the bar O is fixed an axis or pivot P P, which passes through the sides of the frame M M, and through the upper ends of the legs A A and B B, and forms the centres of the joints C C; on the ends of the pivots P P are screwed nuts Q Q for tightening the joints; see fig. 4 which is a section, through one of the joints; R R R R are four staples fixed to the inner sides of the legs A A and B B through which the semicircular plates N N are at liberty to slide, and may be fixed by the four set screws S S S S, which screw through the staples and act against the semicircular plates, consequently the frame M M is at liberty to turn on its axis P P either way from a horizontal to nearly a perpendicular position, and may be fixed in any situation, by the set screws S S S S. T T is

another square frame, of the same size as the frame MM , and fixed on the upper side of it, as will be hereafter described, UU and vv are four rails which cross each other at right angles, and their ends are fixed in the sides of the frame TT ; one half of the depth of the rails UU and vv are cut away where they cross each other, and also the part between the rails, so that the upper and under sides of the rails are all level with those of the frame TT ; w and x are two level plates of iron twelve inches square, w one-eighth and x one-fourth of an inch thick, the plate w is let in level with the upper sides of the rails UU and vv and in the middle of the frame TT ; the plate x is let in one-eighth of an inch on the under sides of the rails UU and vv and opposite the plate w . $YYYY$ are four metal pillars, about two inches and three-quarters long, and one inch square, the ends of which pass through the holes in the corners of the plates w and x , and are clenched on the outer sides of them, which keeps the plates parallel to each other, and also fixes them to the sides of the frame TT ; the pillars must be placed so as to coincide with the four corners, which are formed with the rails UU and vv . See fig. 2, which is a view of the upper side of the middle part of the frame TT , having the upper plate w removed so as to show the ends of the pillars $YYYY$, the rails UU and vv , and also the sliding bars aa and bb . Fig. 3 is a side view of the same parts. The breadth of the sliding bars aa must fill the space between the rails UU , and the sliding bars bb the space between the rails vv ; the thickness of the sliding bars aa and bb must fill the space between the plates w and x , so as to slide past each other; the bars aa and bb also pass through the holes in the sides of the frame TT , and extend to the edges of the drawing board or table z ; four

clamps *c c c c* are screwed to the upper sides of the outer ends of the sliding bars, having a shoulder *d*, (which is level with the upper side of the frame *T T*) and also a jaw *f* projecting above the shoulder *d*, equal to half the thickness of the drawing board *z*, (see fig. 4). The use of the sliders is to support the edges of the drawing board *z*, and to prevent its sliding off the frame when elevated; the sliders may be extended or contracted, to accommodate different sized drawing boards, and may be fixed in any position by the four set screws, *g g* and *h h*, which are screwed through the pillars *Y Y Y Y*, and act against the sides of the rails *U* and *v*, which depresses them against the edges of the sliders and prevents them from being withdrawn by the weight of the drawing-board when elevated. To the under side and in the centre of the plate *x* is fixed a stud or pivot *i*, which passes through a hole in the middle of the bar *o*, having a washer *j* and a screwed nut *k* on the end of it, to secure it to the bar *o*, then the upper frame *T T* together with its appendages will be at liberty to turn round, and may be fixed in four different positions, (that is when the frame *T T* is parallel to the frame *M M*) by the two buttons *l l* which are fixed to the upper ends of the semicircle *N N*, and act against the sides of the frame *T T*, which prevent it from turning. The drawing-boards must be made level on both sides, so that paper may be placed on either or both if required, and the board turned over.

Having been engaged in making some large mechanical drawings, their dimensions being seven feet by six, I found it impossible to execute them in the usual way; necessity obliged me to contrive some plan of manœuvring the board so as to get to the middle of it

without getting upon it. I have made a drawing-table upon the plan above described, and I find that I can get to any part of it with perfect ease. The table may be used in a horizontal or an elevated position, nearly to a perpendicular; when in the latter situation I hang the drawing-square over the upper edge of the drawing-table, and draw the lines perpendicular; and when long lines are wanted at right angles to them, I turn the board one-fourth round, and then draw the lines as before, which I find to be more perfect than drawing them in a horizontal position. I can place a much larger drawing-board on the stand than the one described and use it with perfect ease.

No. XV.

INSTRUMENT FOR MEASURING SMALL
INTERVALS OF TIME.

The GOLD VULCAN MEDAL was this session given to Mr. WILLIAM HARDY, Wood-street, Coldbath-fields, for his Instrument for ascertaining 1-600th part of a second of time. One of the instruments has been placed in the Society's repository.

No. 5, Wood-street, Coppice-row, Spa-fields,

SIR,

April 19, 1825.

I BEG leave to lay before the Society of Arts, a machine or time keeper, for reading off the three hundredth part of a second of time; it may be used for many purposes